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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/076,075	02/15/2002	Bong-gi Kim	1293.1318	8497

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EXAMINER

AGUSTIN, PETER VINCENT

ART UNIT PAPER NUMBER

2652

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/076,075	Applicant(s) KIM, BONG-GI	
	Examiner P. Agustin	Art Unit 2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-15,17 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-15,17 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1, 3-15, 17 & 18 are now pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 19, 2005 has been entered.

Specification

3. The title of the invention is lengthy.

The following title is suggested: --APPARATUS AND METHOD OF
COMPENSATING FOR DEVIATION BETWEEN OPTICAL AXES--.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-15, 17 & 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ando et al. (US 6,392,977) in view of Ono et al. (US 5,659,531) and the admitted prior art.

In regard to claim 1, Ando et al. disclose an optical pickup apparatus (Figure 1) comprising: a first light source (3a) to generate a first light beam (L1); a second light source (3b) to generate a second light beam (L2) whose optical axis is parallel to the optical axis of the first

Art Unit: 2652

light beam (optical axis is read to correspond to the path of the light beams starting from the coating 4a of the beam splitter 4 and ending at the recording medium), the second light source (3b) being disposed optically farther from a recording medium than the first light source; a photodetector (15) to receive the first light beam and the second light beam which are emitted from the first and second light sources, respectively, and which are reflected from the recording medium and performing photoelectric conversion; an objective lens (9) to focus the first light beam and second light beam on the recording medium, the objective lens being disposed on an optical path between the first and second light sources and the recording medium; and a beam splitter disposed on an optical path between the objective lens and the photodetector, the beam splitter (7) having a first surface to reflect the first light beam and the second light beam toward the objective lens and simultaneously transmitting the first light beam and the second light beam, and a hologram (8) for compensating for a deviation between optical axes of the first and second light beams transmitted through the first surface, wherein the hologram is formed to diffract the first light beam into a relatively more +1-order diffracted light beam and relatively less residual light, and to diffract the second light beam into a relatively more zero-order diffracted light beam and relatively less residual light (column 6, lines 20-29).

In regard to claim 3, Ando et al. disclose that the first surface is set such that the first light beam and the second light beam are incident thereon at an angle of 45° (column 6, line 1).

In regard to claim 4, Ando et al. disclose a coating (7a) formed on the first surface so that approximately 50% of the first light beam is reflected and approximately 50% thereof is transmitted (column 6, lines 9-12).

Art Unit: 2652

In regard to claim 5, Ando et al. disclose a coating formed on the first surface so that approximately 50% of the second light beam is reflected and approximately 50% thereof is transmitted (column 6, lines 9-12).

In regard to claim 6, Ando et al. disclose that the hologram is formed such that the +1-order diffracted light beam is at least 70% as much as the first light beam (column 6, lines 20-29).

In regard to claim 7, Ando et al. disclose that the hologram is formed such that the zero-order diffracted light beam is at least 70% as much as the second light beam (column 6, lines 20-29).

In regard to claim 8, Ando et al. disclose a collimating lens (6) on an optical path between the beam splitter and the objective lens.

In regard to claim 9, Ando et al. disclose a concave lens (14) on an optical path between the beam splitter and the photodetector. Note that element 14 is a multiple lens, which is known in the art as comprising a concave lens.

In regard to claim 18, Ando et al. disclose that a coating is formed on the first surface so that approximately 50% of the second light beam is reflected and approximately 50% thereof is transmitted (column 6, lines 9-12).

However, Ando et al. do not disclose: in regard to claim 1,

(a) that the hologram is formed on a second surface of the beam splitter (note that Ando et al.'s hologram is separately provided from the beam splitter, and not formed on any surface of the beam splitter), and

(b) that the optical axis of the first light beam is parallel to the optical axis of the second light beam before the first and second light beams are reflected by the beam splitter and after the first and second light beams are reflected by the beam splitter.

In regard to (a), Ono et al. disclose a beam splitter (Figure 11A, element 216) having a surface on which a hologram is formed. It would have been obvious to one of ordinary skill in the art at the time of invention by the Applicant to have applied the teachings of Ono et al. to the apparatus of Ando et al., the motivation being to provide a compact, light and low cost optical head device (see last three lines of abstract).

In regard to (b), the admitted prior art discloses a first light source (13) to generate a first light beam and a second light source (15) to generate a second light beam whose optical axis is parallel to the optical axis of the first light beam, the second light source being disposed optically farther from a recording medium (25) than the first light source, and wherein the optical axis of the first light beam is parallel to the optical axis of the second light beam before the first and second light beams are reflected by the beam splitter (19) and after the first and second light beams are reflected by the beam splitter. It would have been obvious to one of ordinary skill in the art at the time of invention by the Applicant to have applied the teachings of the admitted prior art to the apparatus of Ando et al., the motivation being to decrease the number of parts used to manufacture the optical pickup apparatus (see paragraph 0004 of the Applicant's specification).

Claims 10-15 & 17 have limitations similar to those of claims 1-7; thus, they are rejected on the same basis.

Response to Arguments

6. Applicant's arguments with respect to claims 1, 3-15, 17 & 18 have been considered but are moot in view of the new ground(s) of rejection.

a. The Applicant argues on page 6, paragraph 6 that Ando does not disclose, teach, or suggest at least, "the optical axis of the first light beam is parallel to the optical axis of the second light beam before the first and second light beams are reflected by the beam splitter". The Examiner agrees. However, as noted in the rejection above, this feature is disclosed by the admitted prior art, and is obvious over Ando et al. in view of Ono et al. and the admitted prior art.

b. The Applicant argues on page 7, paragraph 1 that Ono does not cure the deficiencies of Ando. The Examiner agrees. However, as noted above, the missing feature is disclosed by the admitted prior art.

Conclusion


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to P. Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Friday 9:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, A. L. Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2652

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

P. Agustin
Art Unit 2652



BRIAN E. MILLER
PRIMARY EXAMINER